

Agency Approaches to Achieving Our Goals

- Review of the 9,700 existing tolerances and the phase-out of use of pesticides found not to meet the new standard.
- Tolerance reviews and reregistration activities entail critical review of current risk assessment practices, in particular to ensure adequate protection for children. To this end, EPA research activities will pursue the development of new tools to better characterize exposures (including consideration of cumulative exposures described above) and overall risks, as well as research on the best ways to encourage improved consumer choices.

Performance Measures

Performance measures for the safe food goal are of two kinds. First there are measures of program outputs--like registrations, reregistrations, and tolerance reassessments. Many of these measures are already in place; as the 1996 Food Quality Protection Act is implemented, additional output measures are being created for the new activities required by that act.

The second kind of measure is a measure of use of selected pesticides, as a surrogate for more direct measurement of the risk posed by those pesticides. Pesticide risk is complex--rooted in the hazards posed by the pesticide (such as neurotoxicity, or the ability to cause cancer), but also dependent on how, where, and how often the pesticide is used, what happens to it after it is used, what populations are exposed to it, how they are exposed, how often, and at what levels.

The challenge of direct measurement of pesticide risk has not yet been met, but we are working with stakeholders to develop better measures, and will incorporate them as soon as their merit is demonstrated. For the time being, however, aggregate use of pesticides of particular concern, based on data from existing sources of production data and estimates of agricultural use, is the best type of measure available to us.



G OAL 4: Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems

Pollution prevention and risk management strategies aimed at cost-effectively eliminating, reducing, or minimizing emissions and contamination will result in cleaner and safer environments in which all Americans can reside, work and enjoy life. EPA will safeguard ecosystems and promote the health of natural communities that are integral to the quality of life in this nation.

Importance of this Goal

EPA seeks to manage environmental risks to communities, homes, and workplaces, and to protect the environmental integrity of ecosystems, by a mix of regulatory programs with alternative approaches to achieve results at less cost and in more innovative, sustainable ways. Rather than “end of the pipe” controls, preventing pollution at the source is our strategy of first choice. (Where pollution prevention at the source is not a viable alternative, the Agency will employ waste minimization, disposal and remediation in a cost effective manner.) These efforts will be directed towards the greatest threats, such as those in our communities, homes, schools and workplaces that have significant impact on our most sensitive populations such as children, the elderly, and individuals with chronic diseases.

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Recognizing the accomplishments made by regulatory and voluntary programs alone, significant environmental risks remain where Americans reside, work, and enjoy life. The country faces several remaining challenges, amenable to a combination of innovative pollution prevention approaches and ongoing risk-management programs.

Over 75,000 chemicals are in commerce today, with an estimated 2,000 new chemicals and 40 genetically engineered microorganisms introduced annually. These include potentially toxic chemicals which may present risks to workers, non-target organisms, and natural resources. Of particular concern is lead. While lead has been phased out in gasoline and banned in house paint, exposure is still a major concern, especially in disproportionately impacted urban communities. Recent data from the *National Health and Nutrition Examination Survey* (NHANES) show almost a million children under the age of six still have unhealthy blood lead levels. Elevated blood lead levels are associated with intelligence quotient deficits, learning disabilities, and other ailments. The primary source is the estimated 65 million homes that still contain old lead paint that can be released during normal wear and tear and renovation activities.

An estimated 20 to 30 million Americans have asthma, leading to the death of approximately 4,000 people per year. There exists a higher prevalence of asthma among children, especially children in low-income and minority communities, than among adults. In addition to ozone and particulates, evidence shows that significant contributing factors to the number and severity of asthma attacks are indoor allergens (particularly dust mites, fungi, and roaches) and second-hand cigarette smoke.

The Resource Conservation and Recovery Act (RCRA) hazardous waste minimization program focuses on chemicals, rather than waste streams, to enable and encourage multimedia waste minimization. Specifically, it focuses on the most persistent, bioaccumulative, and toxic chemicals (PBTs). PBTs are of great concern regardless of how they are managed. Reducing the presence of these chemicals will lead to safer chemical substitutions and manufacturing processes, eliminate some occupational exposures to certain chemicals of concern and, in general, result in safer communities. A major objective is to reduce the amount of pollution generated annually in order to protect human health and the environment, through encouraging material substitution and manufacturing process changes and by encouraging the safe recycling of

wastes. Our primary focus is source reduction, eliminating where possible the generation of high-risk wastes. If source reduction is not possible, recycling reduces the amount of waste that must be managed through treatment and disposal; recycling also increases the recovery of valuable finite natural resources.

Finally, EPA places particular priority on working with Indian tribes on a government-to-government basis to improve environmental conditions in Indian country, consistent with our trust relationship with tribes and the nation's interest in conservation of cultural uses of natural resources.

Objectives

- By 2005, public and ecosystem risk from pesticides will be reduced through migration to lower risk pesticides and pest management practices, improving education of the public and at-risk workers, and forming "pesticide environmental stewardship" partnerships with pesticide user groups.
- By 2005, the number of young children with high levels of lead in their blood will be significantly reduced from the early 1990's.
- By 2005, of the approximately 2,000 chemicals and 40 genetically engineered microorganisms expected to enter commerce each year, we will significantly increase the introduction by industry of safer or "greener" chemicals which will decrease the need for regulatory management by EPA.
- By 2005, fifteen million more Americans will live or work in homes, schools, or office buildings with healthier indoor air than in 1994.
- By 2005, reduce by 25% (from 1992 level) the quantity of toxic pollutants released, disposed of, treated, or combusted for energy recovery. Half of this reduction will be achieved through pollution prevention practices.
- By 2005, EPA and its partners will increase recycling and decrease the quantity and toxicity of waste generated.
- By 2003, 60% of Indian Country will be assessed for its environmental condition, and Tribes and EPA will be implementing plans to address priority issues.

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What Will Be Accomplished

Pesticides

In addition to ensuring the safety of America's food supply (see Goal 3), the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) mandates that EPA control unreasonable risks of pesticides to human health and the environment in general. EPA establishes the conditions of registration, marketing and use of non-food use pesticides as well, so as to address adverse effects to workers, non-target organisms (especially endangered species) and natural resources (e.g., groundwater and ecologically important surface waters). Non-food use products include medical and household disinfectants, wood preservatives, household pest and lawn care products. The Agency will address risks from non-food use pesticides through a combination of activities, such as chemical information gathering, testing, risk screening, risk assessment, and voluntary and regulatory risk management actions. By 2005, EPA expects to achieve a cumulative 50 percent reduction from 1995 levels in adverse health effects caused by pesticide poisoning; provide adequate notification protection for endangered species potentially affected by pesticides on all pesticide labels; assure that all pesticide handlers and farm workers have been adequately trained in the safe handling, use and disposal of pesticides; and implement agreements with 80 pesticide user groups to use integrated pest management (IPM) techniques. EPA's objective to reduce the risks associated with agricultural chemicals (see Goal 3, above) by 2005 will result in an accompanying 50% decrease in use of pesticides that have high potential to leach into groundwater or to cause significant acute toxicity to fish and wildlife.

Toxic Chemicals

The Toxic Substances Control Act (TSCA) likewise mandates that EPA control unreasonable risks of chemicals in commerce. We will work to develop an enhanced, more efficient and streamlined program, while minimizing administrative, record-keeping, and regulatory burdens on the chemical industry. A comprehensive strategy will be developed to systematically screen all chemicals in commerce and to identify those believed to be used safely and those that warrant concern. These chemicals will be classified by hazard endpoint based on available information. In screening the 75,000 chemicals in commerce,

emphasis will be placed on identifying persistent bioaccumulative chemicals and endocrine-disrupting chemicals. EPA will encourage chemical manufacturers to prevent release of these chemicals to the environment.

Lead Poisoning

Significant progress has been made in reducing the levels of lead in the air from gasoline, from cans containing food, and in children's toys to prevent lead poisoning. EPA will work to eliminate the adverse physical effects of lead poisoning through an active urban intervention, education and enforcement initiative.

Pollution Prevention

Efforts will be made to prevent harmful chemicals from entering commerce, to place restrictions on their usage in the market, and to encourage industries to introduce safer chemicals. The Agency also will promote changing from the current chemical-by-chemical risk assessment and management method to more productive streamlined operations by dealing concurrently with all



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chemicals in the same categories or use sectors. The non-food pesticide programs will ensure that these substances do not pose a threat to human health or the environment and that they are handled in a safe manner. In addition, the following specific milestones are expected to be met by 2005:

- One hundred percent of the states will have strong, effective, operating pollution prevention programs.
- Each Executive Branch department and agency will have an effective program that is designed to help its personnel identify and purchase environmentally preferable products and services, and to have established goals as required by the Federal Acquisition, Recycling, and Waste Prevention Executive Order.
- Sixty percent of manufacturing industries will have adopted voluntary environmental management systems, including environmental accounting and materials management practices.

- There will be a 20 percent increase in the use of cleaner technologies in certain targeted industries.

Voluntary environmental management programs are adopted by business when seen as economically beneficial. The role of EPA is to provide information and voluntary incentives to help create awareness of these benefits. The adoption of cleaner technologies is often driven by economics as much as regulatory strictures for some sectors, and the Agency's Design for the Environment program for those sectors is geared toward providing information to encourage the adoption of clean technologies.

Indoor Air

Achieving healthier indoor environments is another priority for EPA. This priority will be accomplished through a reduction in public exposure to radon, environmental tobacco smoke and other indoor air pollutants through direct mitigation, a better educated and informed public, and buildings that are better designed, constructed and maintained. In addition, the following expected milestones will be met by 2005:

- 17 million homes will be tested for radon levels; 700,000 homes with high radon levels will be mitigated; and one million new homes will be built with radon-resistant construction techniques.
- The proportion of households in which children 6 and under are regularly exposed to smoking will be reduced from 27 percent in 1994 to 15 percent.
- Five percent of office buildings will be managed with good indoor air quality practices consistent with EPA guidance.
- Fifteen percent of the nation's schools will adopt good indoor air quality practices consistent with EPA guidance.

Waste Minimization

RCRA calls for EPA to provide national leadership in reducing the amount of waste generated and to improve the recovery and conservation of materials through recycling. EPA's programs focus on all waste: hazardous waste, non-hazardous industrial waste, and municipal solid waste. EPA will reduce the toxicity of waste by focusing on reductions in persistent, bioaccumulative and toxic chemicals (PBTs). The quantity of waste also will be



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reduced and, where waste is generated, EPA will encourage and facilitate increased recycling. This three-pronged effort--reduce toxicity, reduce quantity, increase recycling--will preserve natural resources and reduce reliance on treatment and disposal. Specific accomplishments include the following:

- By 2005, recycling, including composting, will divert at least 35 percent of municipal solid waste from landfilling and combustion.
- By 2005, the most persistent, bioaccumulative, and toxic chemicals in hazardous waste streams will be reduced by 50 percent from the 1994 baseline.
- By 2005, the amount of hazardous waste safely recycled will increase by 25 percent.
- By 2005, the amount of per capita generation of municipal solid waste will be reduced to 4.3 pounds per day.

Tribal Environmental Programs

EPA will work with all Federally-recognized tribes, establish an environmental presence in Indian country, develop and implement a framework for conducting comprehensive tribal environmental assessments, and complete Tribal/EPA Environmental Agreements or other plans that identify joint priorities for improving human health and the environment.

Strategies for How It Will Be Accomplished

EPA performs its responsibilities in concert with the U.S. Consumer Products Safety Commission (CPSC), which has general jurisdiction over the safety of household products, and the Occupational Safety and Health Administration (OSHA), for workplace safety.

The primary tools used by EPA to lower risks from pesticides are its registration and reregistration programs. Coupled with enhanced public education and appropriate labeling, accelerated approval of safer alternative pesticides can contribute to reduced risk to the environment, workers, homeowners and consumers.

Other potentially dangerous chemicals are regulated under the Agency's New Chemicals Program and Existing Chemicals Program which are mandated under the Toxic Substances Control Act.

The Existing Chemicals Program assesses and manages risks associated with commercial chemicals and develops necessary related chemical hazard data. EPA will move away from emphasis on evaluating chemical risks based on new information and move towards a more planned and comprehensive screening of the risks of the 75,000 chemicals now in commerce. This systematic approach will identify chemicals that are believed to be manufactured and used safely, as well as chemicals that may pose risks to humans and the environment, providing a "Toxics Agenda" for the nation that identifies those chemicals in need of further attention.

By assessing new chemicals before they are manufactured or imported, the New Chemicals Program actively carries out EPA's preferred strategy of preventing pollution before it can occur. The program also supports development of safer chemicals by minimizing or eliminating regulatory burdens on new chemicals that replace riskier substances already in the marketplace. The Agency also will make information about chemical hazards and exposures developed during the data gathering, risk screening, and testing program more available to the public, thus promoting the "right-to-know" ethic.

EPA will continue to set national goals and criteria for exposure to lead, build on existing educational programs, and directly focus efforts at the community level. The newest and most effective demonstrated approach to health and environmental risks is aggressive multimedia urban education and pest management intervention programs. These projects combine the efforts of EPA with those of states, municipalities, and tribal governments. Working in concert with public health agencies such as the Centers for Disease Control and the National Institutes of Health, risks from pesticides and pesticide misuse, new chemicals, microorganisms, lead, and indoor air pollutants can be significantly reduced.

Our strategies to improve indoor environments are to use education and outreach to inform the public; to complement other agencies' work, using partnerships to promote behavioral changes and the use of technology-based practices that improve air quality; and to continue to research and improve the science upon which recommended actions are based.

The Hazardous and Solid Waste Amendments of 1984 directed EPA to reduce the volume and toxicity of hazardous waste. EPA and its partners developed the

Waste Minimization National Plan (WMNP) to provide a framework for achieving this mandate. EPA has several efforts underway to support implementation of the WMNP, including: identifying and prioritizing PBTs, linking PBTs with RCRA wastes, and developing measurement methodologies.

EPA is revising the regulatory framework for hazardous waste recycling to provide simpler definitions and regulations, focus regulatory controls on materials that may pose a hazard to human health and the environment, and remove disincentives that cause industry to choose disposal over safe recycling.

National efforts to manage municipal solid waste (MSW) have focused on the integrated solid waste management approach, a concept introduced by EPA in 1988. Integrated waste management requires a coordinated mix of strategies, with preference given to source reduction and recycling. EPA and states, tribes, and local governments work together to foster source reduction and recycling through voluntary programs (e.g., WasteWi\$e), economic incentives for solid waste management services that promote greater source reduction and recycling (e.g., unit based pricing), and support of waste-based industries (e.g., increase procurement of goods made from recycled materials). EPA also is working with its partners to identify the best approaches to encourage recycling of non-hazardous industrial waste.

Performance Measures

Pesticides and Toxic Chemicals

Pesticides measures will include selective pesticide use reductions, alternative pesticides registered, grower partnerships implemented, workers trained, and poisonings reported.

New chemicals measures will include the number of new chemical submissions, number of new chemical risk management actions (bans, withdraws, consent orders), and number of safer and “greener” new chemicals (e.g., those that are less toxic, lower exposure, more energy efficient, generate less--or less toxic--waste, or have similar attributes). Existing chemical measures will focus on the number of chemicals screened, number of chemicals reviewed and believed to be “safely used,” and number of testing actions. Pesticides measures will include selective pesticide use reductions, alternative

pesticides registered, grower partnerships implemented, workers trained, and poisonings reported.

Pollution Prevention

Measures will include the number of alternative safer chemicals or processes introduced; the quantity of toxic chemicals manufactured, used, recycled, and released into the environment; the amounts of reductions in these quantities that are attributable to the adoption of pollution prevention practices; and the types and amount of human health and environmental effects information available for highest risk chemicals. Progress in encouraging businesses to incorporate preventive approaches into environmental decision making will be measured by participation in Agency sponsored voluntary programs, in implementation of sound environmental management systems and pollution prevention facility plans, and in adoption of environmental accounting systems. The effectiveness of state prevention programs can be measured by the amount of technical assistance provided; the effectiveness of this assistance in encouraging the adoption of pollution prevention approaches; the number of permits, regulations and supplemental environmental projects that reflect pollution prevention approaches; and the integration or coordination of the state pollution prevention program with related environmental and business assistance programs.

Lead Poisoning

Measurement of reduction in children's blood lead levels due to EPA activities will be accomplished by the National Center for Health Statistics through the National Health and Nutrition Examination Survey. EPA will use the results of this long-term study to estimate the effect of regulations and other programmatic activities on the reduction in children's blood lead levels.

Indoor Air

We will estimate by evaluating information concerning: 1) the number of schools and commercial buildings that implement good indoor air quality practices; 2) the results of private sector and CDC surveys on smoking; and, 3) the number of homes tested and mitigated for radon and new radon resistant homes.

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Waste Minimization

EPA's performance measures for waste minimization were designed to provide a limited set of data that reflect the nation's most important waste management program priorities. Other types of environmental program and fiscal data will be needed to maintain effective program management. EPA will work with state partners to develop a set of environmental indicators that will provide outcome measures. The following are examples of current performance measures.

- Decreases in the quantity of waste generated and toxicity of waste generated, and increases in recycling of waste.
- Reduction in municipal solid waste landfilled and combusted.
- Reduction in per capita generation of municipal solid waste to 4.3 pounds per day.

Tribal Environmental Programs

- In the near term, measures will include the number of tribes with environmental programs, the extent of our understanding of environmental conditions in Indian country, and which tribes have developed plans for addressing priority environmental issues.
- Once we have established a baseline for environmental conditions in Indian country, we will also measure improvements in environmental conditions.
- Number of Tribal/EPA Environmental Agreements (TEAs) completed.
- Number of environmental assessments conducted on tribal lands.
- Number and percentage of tribes with environmental programs or infrastructure that are capable of conducting environmental assessments.



**GOAL 5: Better Waste
Management, Restoration
of Contaminated Waste Sites,
and Emergency Response**

America's wastes will be stored, treated, and disposed of in ways that prevent harm to people and to the natural environment. EPA will work to clean up previously polluted sites, restoring them to uses appropriate for surrounding communities, and respond to and prevent waste-related or industrial accidents.

Importance of this Goal

Improper management of wastes can lead to fires, explosions, and contamination of air, soil, and water. A frequent result of improper hazardous waste disposal is the contamination of groundwater--the source of drinking water for nearly half of all Americans. At some sites, toxic vapors from evaporating liquid wastes or chemical reactions contaminate the air. Pollutants such as metals and organic solvents can damage vegetation, endanger wildlife, and harm the health of people who live in nearby communities. Toxic and hazardous substances, including radioactive waste, deposited on land often are carried far from their source by air, groundwater, and surface water runoff into streams, lakes, and rivers where they accumulate in the sediments beneath those waters.